

FIG. 1

The diagram illustrates a digital-to-analog converter (10) and its associated control and output stages. The D/A converter (10) is composed of several key blocks:

- Current Source (11a):** Provides a reference current I_p to the input stage.
- Input Stage (11):** A network of NMOS transistors ($TN1, TN2, TN3, TN4, TN5, TN6$) and PMOS transistors ($PN1, PN2, PN3, PN4, PN5, PN6$) that convert digital inputs into an analog current. The input stage is divided into three sections with different current ratios: $I_p/8$ (7:1 ratio), $I_p/4$ (3:1 ratio), and $I_p/2$ (1:1 ratio).
- Output Stage (11b):** A network of NMOS transistors ($TN7, TN8, TN9$) and PMOS transistors ($PN7, PN8, PN9$) that convert the analog current into a voltage output.
- Feedback Loop (11c):** A feedback path consisting of a capacitor (11b) and a current source (11c) that stabilizes the output voltage.
- Control Circuit (15):** A control circuit (15) that receives digital data (D0-D7) and controls the output stage (11b) via a switch (14) and a buffer (15a). The control circuit includes a register (16) and an MPU.
- Power and Ground:** The circuit is powered by V_{DD} and GND .

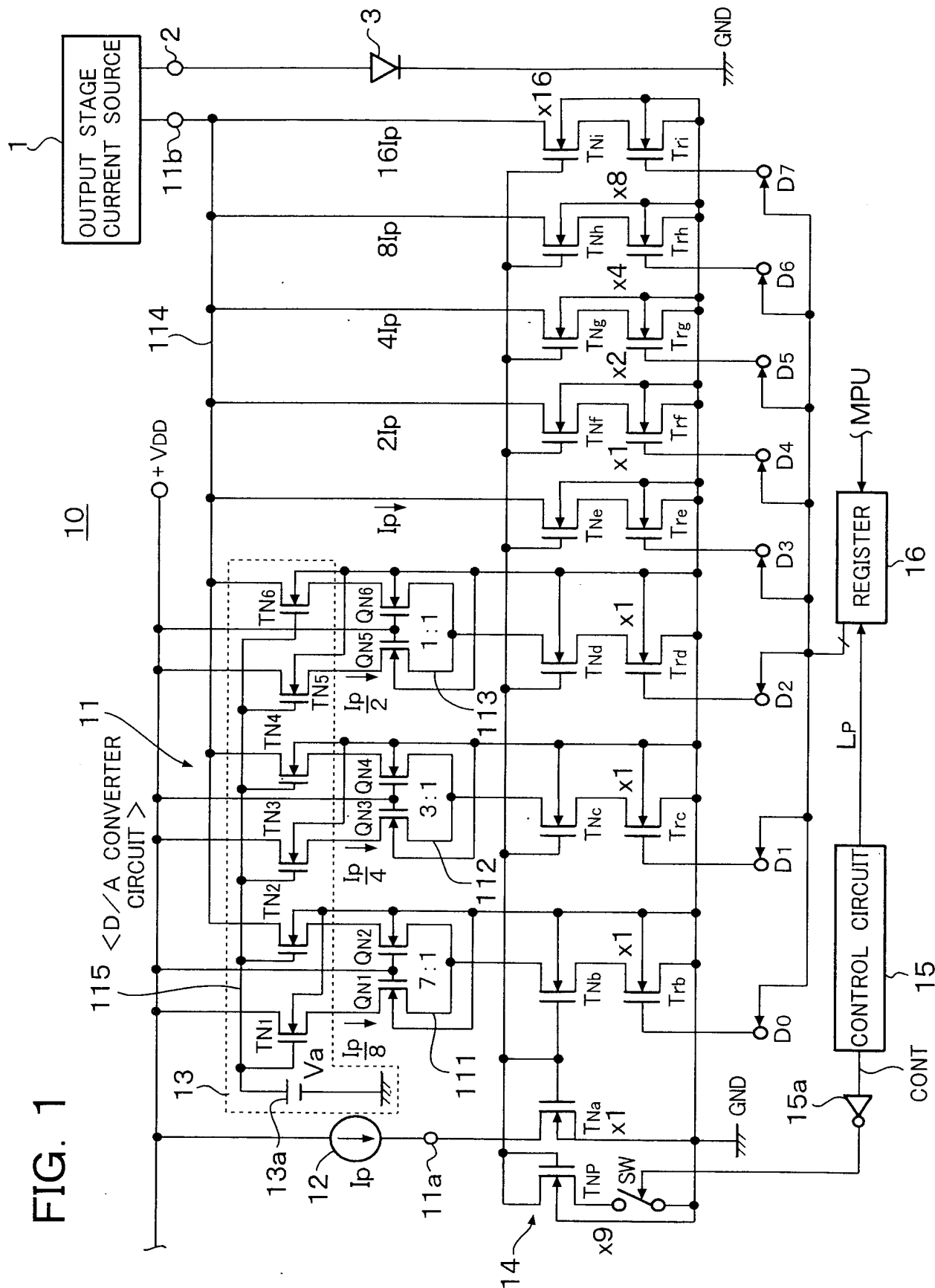


FIG. 2

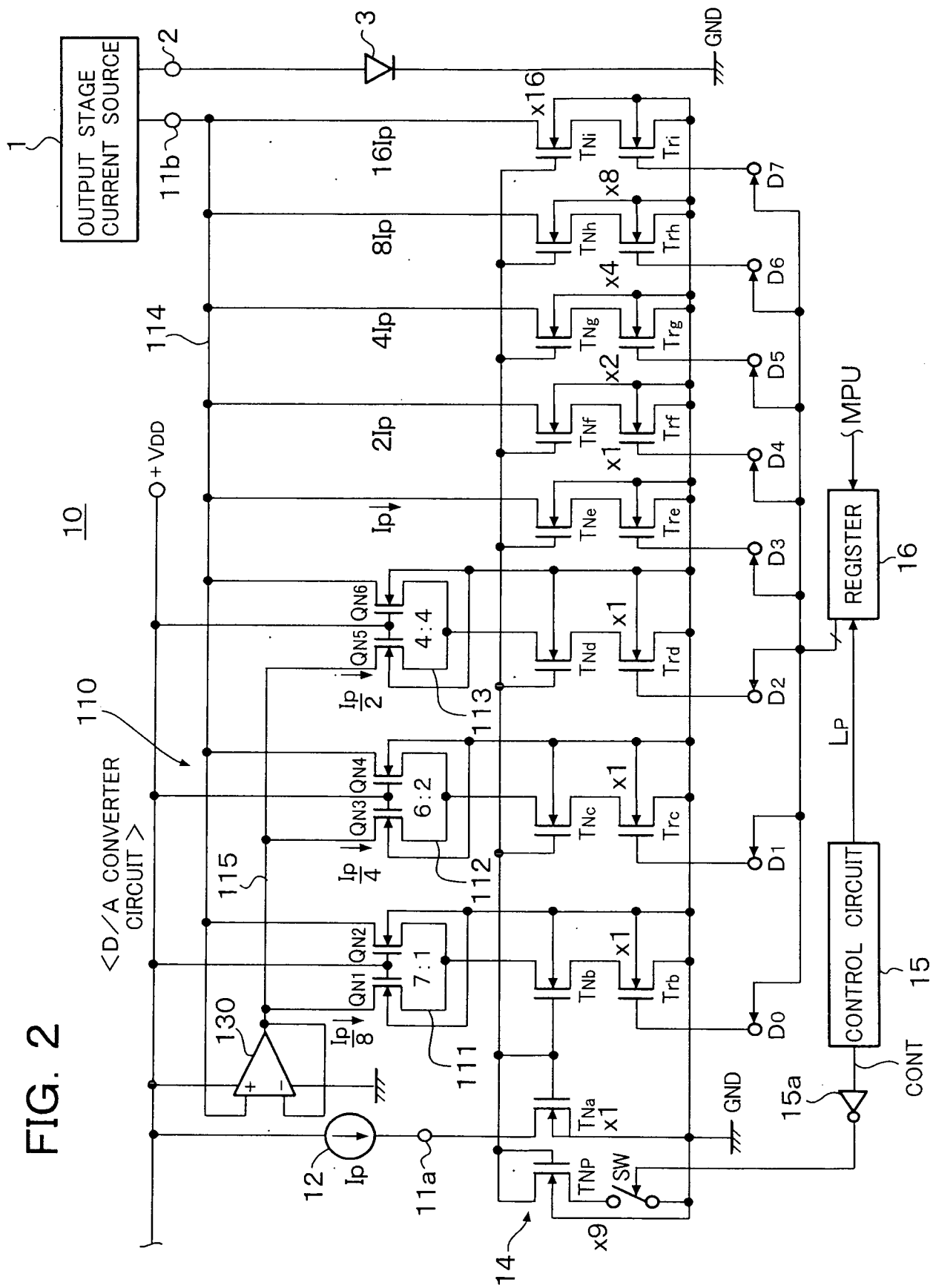


FIG. 3

